

CHBE 390 – Kinetics and Reactor Design

MWF 9:00-9:50 am

Room DCH 1064

Credits 3.00

Fall 2010

Professor	Michael S. Wong	Room AL-B241	mswong@rice.edu
Teaching Assistants	Mr. Zhun Zhao	Room AL-C154	zz6@rice.edu
	Ms. Wenting Zhao	Room AL-B112	wz11@rice.edu
	Mr. Daniel Du	Room AL-B211	dd13@rice.edu
Overview	General areas that are covered in this course are (1) principles of chemical kinetics; (2) analysis of reaction rate data; (3) heterogeneous catalysis; (4) ideal reactor design and sizing; and (5) heat effects in reactor design.		
Required Text	H. Scott Fogler, <u>Elements of Chemical Reaction Engineering</u> , 4 th Ed. (2006)		
Optional Reading	M. E. Davis and R. J. Davis, <u>Fundamentals of Chemical Reaction Engineering</u> (2002) C. G. Hill, Jr., <u>An Introduction to Chemical Engineering Kinetics and Reactor Design</u> (1977) O. Levenspiel, <u>Chemical Reaction Engineering</u> , 3rd Ed. (1999) L. D. Schmidt, <u>The Engineering of Chemical Reactions</u> (1998)		

Coursework and Grading

<u>Problem sets</u>	(35%)	9 assignments will be handed out throughout the semester, typically due ~7 days later. The TA's will grade the assignments. The homework should follow a particular format, as will be described in PS #1 (assigned Aug. 25, 2010). Extra effort on problem sets may be rewarded with extra points. Late policy: 10% off total score for every 24-hr period beyond the due date and due time, that the entire assignment is late
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Examinations

Midterm #1	(17%)	Take-home, pledged 2-hr exam. Open book (Fogler) + open notes. Tentative date for handing out: October 8, 2010 (Fri.)
Midterm #2	(17%)	In-class, 2-hr exam. Open book (Fogler) + open notes. Tentative date and time: Nov. 11, 2010, 7-9 pm (Thurs.)
Final exam	(31%)	Take-home, pledged 3-hr exam during final exam period. Assigned on Dec. 8, 2010, and due no later than Dec. 14, 2010.

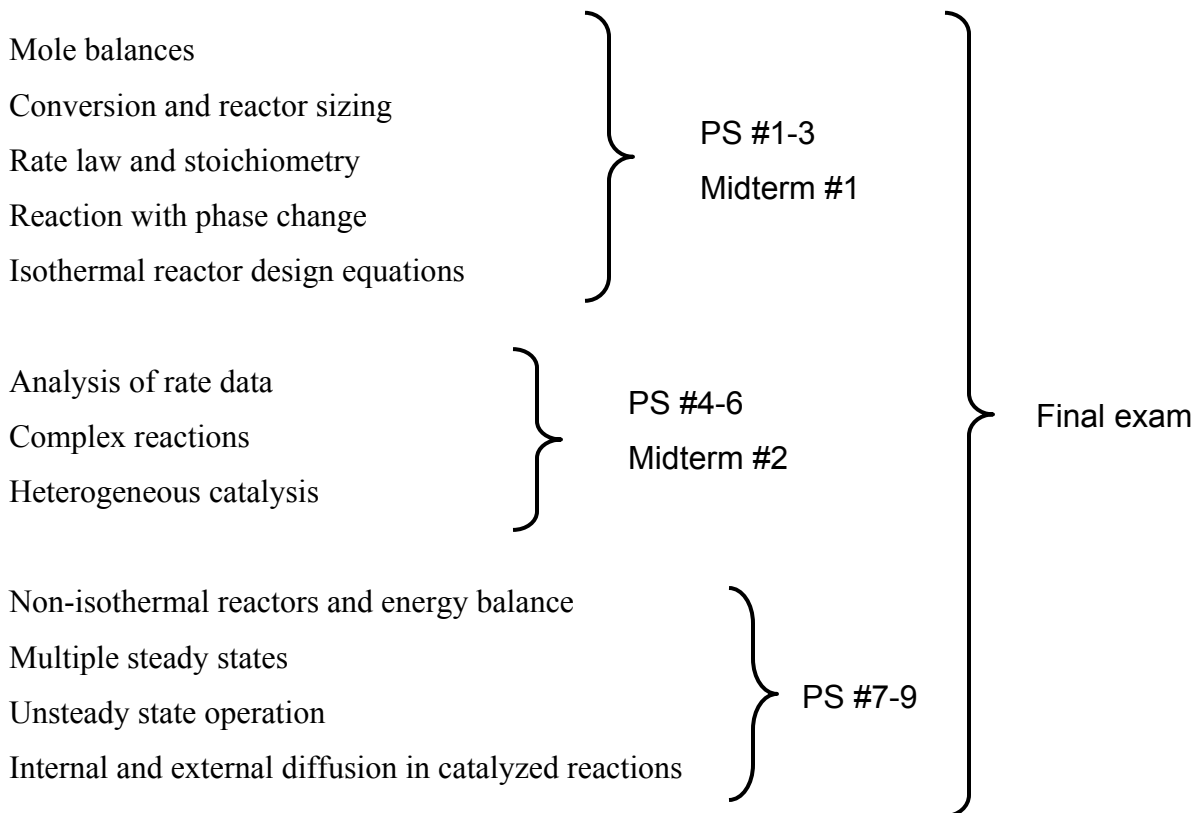
My Office Hours Mondays, 4-5 pm, my office (email me to secure a time)

TA Office Hours As arranged with the TA's

TA Recitations Ad-hoc basis

Honor Code Students are encouraged to talk and work with one another, but referring to (and copying) solution sets and test materials from any student or from other years is not allowed.

Lecture Topics



Guest Lecturers from Industry

Dates TBA

Dr. Lin Luo, Hydrocarbons and Energy R&D, The Dow Chemical Company

Any student with a documented disability needing academic adjustments or accommodations is requested to speak with Professor Wong during the first two weeks of class. All discussions will remain confidential. Students with disabilities will need to also contact Disability Support Services (x5841) in the Ley Student Center.